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WORKSHOP ON TRENDS IN SOVIET VIEWS ON THEATER WAR

Massachusetts Institute of Technology
Center for International Studies
292 Main Street
Cambridge, MA

November 5, 1987

Purpose

This workshop will examine evolving trends in Soviet views on warfare. Two specific issues are on the agenda:

1. What do we know the Soviet approach to theater assessments?
2. Is there convincing evidence of major changes in Soviet thinking on non-nuclear warfare?

The workshop is being conducted by the Soviet Security Studies Working Group, for the Office of Net Assessment, Department of Defense.

Format

As outlined below, the workshop agenda covers an array of closely related topics that have been the focus of research by the Working Group, under contract support by the Office of Net Assessment. Each topic area will be introduced by the primary Working Group member responsible for that area, and discussion will follow. Presentations will be brief; the emphasis will be on dialogue among the participants in an effort to integrate the findings of the individual research projects.

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Soviet Assessment of Radioelectronic Combat

I. GOAL

To assess the Soviet conception of radioelectronic combat (radioelektonnaya bor'ba (REB)) in terms of:

- A. Development of the structure and emphasis of components
- B. Operational implementation relative to the separate services and modes (offensive vs. defensive)
- C. Implications for the overall correlation of forces in the European theater of operations

II. METHODOLOGY AND SOURCES

A. Method

- 1. A qualitative time-series analysis of the conceptual writings on the structure and constituent parts of REB.
- 2. A qualitative analysis of the literature dealing with the methods of application of REB as a form of operational (battlefield) support.
- 3. A type of reverse analysis, utilizing Soviet writing on the Western concepts of electronic warfare (EW), electronic countermeasures (ECM), electronic counter-countermeasures (ECCM), and signals intelligence (SIGINT), which together broadly make up Soviet REB, as a window into Soviet emphases, both in terms of systems and their application.

B. Sources

- 1. Relevant entries in the authoritative Military Encyclopedic Dictionary, as well as a series of longer works and monographs which deal with the subject as a whole (chief among these the works of General-Major-Engineer A.I. Paliy, the most consistent and authoritative writer on the subject).
- 2. Soviet central press articles, largely in Krasnaya Zvezda, which concern the application and effectiveness of REB in military exercises.

3. Articles in the military journals, Voenno-Istoricheskiy Zhurnal, Vestnik PVO, Aviatsii i Kosmonavtika, and Morskoy Sbornik, dealing with the application of REB in local wars, primarily Vietnam, the 1967, 1973, and 1982 Mideast conflicts, and (to a lesser extent) the Falklands conflict.
4. Articles in the journal Zarubezhnoye Voennoye Obozreniye (Foreign Military Review) which examine US and NATO systems and concepts which fall under the Soviet concept of radioelectronic combat.

III. MAJOR FINDINGS

Note: These findings are the result of a preliminary examination, and should be regarded as working hypotheses rather than as conclusive. Further research will no doubt result in refinement and perhaps in reformulation.

- A. The Soviet military has since 1963 placed an ever increasing emphasis on the concept and application of radioelectronic combat (REB), both in terms of quantity of writings and the qualitative importance assigned to it.
- B. There appears to have been a debate in the late 1960's and early 1970's as to the proper nature of REB, which was apparently settled with the publication of Radioelectronic Combat (A.I. Paliy) in 1974. Since that time, effort has been expended in promulgation and explication of the operational aspects of the concept.
- C. REB is a form of battlefield operational support, ranked in the hierarchy (see Military Encyclopedic Dictionary) just below intelligence & protection from weapons of mass destruction, although there is some reference to its use as a weapons system.
- D. Soviet writers stress the consolidation of implementation and support measures into a unified structure, consisting of air, sea, and ground assets of electronic warfare, intelligence, and ECM.

- E. The major broad missions and applications of REB are formulated in terms of two broad considerations:
(1) Command, control, communications, and intelligence; and, (2) achievement of operational and tactical surprise. With these in mind, the foreseen missions and applications are:
1. Maintaining the effectiveness of friendly command, control, and communications.
 2. Disrupting and if possible paralyzing enemy command, control, and communications.
 3. Obtaining reliable intelligence on enemy radioelectronic resources (through the Soviet equivalent of SIGINT) in order to achieve the above.
 4. Through radioelectronic maskirovka and defensive measures of REB, to preclude the enemy gathering of such intelligence.
 5. In addition, effective REB is seen as being a prime factor in the achievement of operational and tactical surprise in the initial stage of hostilities.
- F. Probably the best characterization of the role of REB in the overall correlation of forces is that it is seen as a force multiplier, which (in defensive modes) is used to maintain and improve the effectiveness of friendly forces, and (in offensive mode) to degrade the effectiveness of adversary forces.
- G. Finally, while quite a lot has been written on the offensive application of REB (largely in reference to local wars), the primary emphasis of the application of REB in the literature dealing with promulgation (primarily that dealing with operational exercises and training) of the concept is in the defensive mode.

IV. DIRECTIONS FOR FURTHER RESEARCH

- A. Continuation of the research described above in order to refine the hypotheses.
- B. Undertake a more refined examination of the application of REB in each of the separate services, with an assessment of the probable success of this application relative to NATO counterefforts.
- C. Undertake an assessment of the possible future organization of Soviet forces for radioelectronic combat, in terms of the consolidation of radioelectronic resources into an integrated framework and command.

Jeff Checkel
October 28, 1987

Gorbachev's Foreign-policy Program

I. GOAL: To explore three issues

- A. The reason(s) why Soviet foreign policy is changing
- B. The decision-making process behind these changes
- C. The nature of the linkages between Soviet domestic and foreign policy

These three issues provide the analytic framework for an examination of two aspects of Gorbachev's foreign-policy program:

1. the ideological element
2. the national-security element

II. METHODOLOGY AND SOURCES

A. Method

1. A qualitative content analysis of the Soviet Foreign-policy literature and leadership speeches of the past four years
2. A comparison of these sources with the actual conduct of Soviet foreign policy under Gorbachev
3. A conceptual view of the various sources as inputs into a multi-stage decision-making process--with special attention paid to the agenda-setting stage

B. Sources

Party journals (Kommunist, Partiynaya zhizn'); academic journals (Memo, SShA, Voprosy filosofii, Vestnik Akademii nauk SSSR, Rabochiy klass i sovremennyy mir); the central press (Pravda and to some extent Krasnaya zvezda); books; and the political-military journal Kommunist vooruzhennykh sil

Note: Sources are predominantly non-military.

III. MAIN FINDINGS

- A. Three primary reasons--two objective in nature and the other subjective--explain the change in Soviet foreign policy under Gorbachev:
1. The changes are a response to objective economic difficulties the USSR is experiencing (here: Gorbachev's oft-repeated phrase "we need peace" to reform at home)
 2. The changes are a response to objective changes in the international environment within which the USSR operates
 3. The changes are also a product of a subjective factor: Gorbachev possesses a world view (mirovozzreniye) different from that of previous Soviet leaders
- B. Gorbachev's foreign-policy program has evolved over time. Some decisions were taken at or before the 27th Party Congress, others were implemented more recently, and many still remain to be taken. In short, we are witnessing an extended process of decisionmaking regarding the change and adaptation of Soviet foreign policy. Gorbachev has played a critical role in this process. He has utilized the agenda-setting powers inherent in his post to recast the terms of debate with respect to a series of issue areas and concepts in the foreign-policy realm.
- C. The most basic linkage between Soviet domestic and foreign policy at present is that the process of change in both spheres is motivated by a single dominant idea: re-engagement.

Domestically, this means re-engaging the Soviet populace. The goal here is the revitalization of the country's socio-economic mechanism. The means to this end are two-fold: (1) a traditional element which encompasses discipline campaigns and the like; and (2) a new element which involves a basic restructuring of the Soviet "social contract"--the people will be asked to work harder and with less job security in return for a greater say in how things are run (in the Soviets, at the workplace, and in the lower levels of the CPSU).

Internationally, this means re-engaging the Soviet Union and its foreign policy with a changing international order. The goal here is a revitalization of Soviet foreign policy and the refurbishing of socialism's image (both at home and abroad). The means to these ends are, again, two-fold: (1) a traditional element which involves revitalizing and modernizing the existing tools of Soviet diplomacy; and (2) a new element which aims to modify the basic world view informing Soviet behavior in the international arena.

- D. While all the elements of Gorbachev's foreign-policy strategy are not yet in place, its fundamental direction is clear. Gorbachev is striving to make the Soviet Union a more "normal" actor in the international arena. The stability of this arena and Soviet participation in it are now accorded a higher priority than the Soviet Union's pursuit of its class and revolutionary interests. Gorbachev, however, fully intends to preserve (and, if possible, to enhance) the USSR's great power status. The pursuit of such status virtually guarantees that the United States and the USSR will continue as rivals in the world arena. The bottom line: If Gorbachev remains in power, the Soviet Union will--in the years ahead--be a radically different actor in the international arena. The US-Soviet relationship will remain fundamentally competitive, but this competition will be conducted via a different mix of methods and over a broader range of issues.

Judy Twigg
November 2, 1987

Western Assessments of Soviet Views on Non-Nuclear Strategic War

I. GOALS

- A. To review the state of Western literature on the evolution of Soviet views on the nature of future war
- B. In the longer term, to assess present and future trends in Soviet thinking on the role of nuclear and non-nuclear weapons in strategic war

II. METHODOLOGY AND SOURCES

A comprehensive comparison of Western academic writings, attempting to identify various schools of thought on Soviet views on the nature of future war. Attention is paid to sources and methods of analysis used by the various authors.

III. MAIN FINDINGS - Five major schools of thought.

- A. Nuclear weapons are an essential and integral part of theater warfare. (Major authors: Koss and Deane)
 - 1. Given that the Pact has achieved parity with NATO in battlefield nuclear weapons, it would be ridiculous to waste that capability by engaging in warfare using only conventional weapons.
 - 2. The major determinant of success in any future conflict will be massive use of nuclear weapons at all stages of combat operations.
 - 3. Major implications are a lowering of nuclear decision authority, an emphasis on nuclear preemption, and an emphasis on the counterforce role of nuclear weapons.
- B. While war in Europe may begin with a conventional phase, it will inevitably escalate into nuclear conflict. (Major authors: Adelman, Douglass and Hoeber)

1. While there has always been interest in non-nuclear war, it has been limited to certain types of conflicts which could not be said to involve strategic objectives. There has been no fundamental shift of interest from strategic war involving nuclear weapons to that involving only conventional weapons.
 2. Should war in Europe begin with a conventional phase, the primary consideration will be the probable transition to nuclear operations.
 3. The focus in war planning is on determining the most favorable time to make the conventional-to-nuclear transition.
- C. There exist no objective preferences for conducting either nuclear or conventional war. The choice will be made as specific conditions dictate. (Major authors: Erickson, Odom, McCausland)
1. There still exist many ambiguities in Soviet thinking about the most favorable methods of conducting future war.
 2. The key objective is to neutralize NATO's nuclear capability, either physically or politically, to avoid nuclear strikes on the Soviet homeland. The extent to which the war will remain "limited," therefore, depends not on the type of weapons used but on the pace and manner in which objectives are attained.
- D. While remaining prepared to escalate to nuclear operations, the Soviets would greatly prefer to keep war in Europe confined to conventional weapons and will take elaborate measures to do so. (Major authors: Hines and Petersen, Trulock, Gormley, Donnelly, Dick, Meyer)
1. The main objective is a quick victory at the lowest possible levels of intensity.

2. The means to attaining this objective are twofold: to degrade NATO's nuclear capability early in the conflict, and to maintain escalation dominance at both the global-nuclear and theater-nuclear levels in order to keep strict control over the escalation process.
 3. The realization that NATO may use nuclear weapons will require all operations to take place from a "nuclear-threatened" posture.
 4. The critical phase of the war will involve deep penetration into NATO's defense in the first few days of the war, emphasizing fire and maneuver in three major operations : air, which will employ "integrated fire destruction of the enemy" to consolidate penetration corridors and to neutralize NATO command and control and nuclear facilities; anti-air; and front, which will involve an advanced penetration and raiding element, a first or attack echelon, a second echelon, and reserves.
 4. The element of surprise assumes major importance, since the need to neutralize NATO's nuclear capabilities will depend on the features of the initiation of the war. Since strategic surprise will be difficult to obtain, it is hoped to deny NATO the knowledge of when, as opposed to whether, an attack will take place.
- E. Future war will involve conventional-only conflicts not only in the European theater, but throughout the globe.
(McCWire, McConnell, Fitzgerald)
1. Conflict could be protracted, even over many years, with Europe as the main theater but including the Near, Middle, and Far East, and all sea and ocean theaters.
 2. Surprise is therefore no longer a major element.

IV. Suggestions for further research

- A. Proceed into the major phase of the study, investigating Soviet military literature over the last few years in particular to identify trends of thought concerning the possible and optimal nature of future wars.
- B. Address issues such as:
 - 1. the role of technological advance in doctrinal changes
 - 2. the impact of arms control on doctrine, and vice versa
 - 3. the degree to which force structure reflects doctrinal changes
 - 4. the impact of new doctrine on potential crisis behaviors
 - 5. possible responses NATO should consider to new Pact developments

Soviet Military Advocacy in National Security Policymaking

I. GOAL

To investigate how the Soviet military uses its assessments and "lessons" of history in the military policymaking process. Do they use these assessments to advocate certain strategic force postures?

II. METHODOLOGY AND SOURCES

A. Methodology

A qualitative content analysis of Soviet military publications from 1959 to the present. This time frame was broken down into three time periods: 1959-1968, 1969-1974, 1975-present.

B. Sources

Sources are predominantly military, covering Voyenno-Istoricheskiy Zhurnal, Military Thought, and books published by Voenizdat. In addition, the political-military and central press have been used, with material from Pravda, Kommunist Vooruzhennykh Sil, and Krasnaya Zvezda.

C. Definitions

1. Threatening Period: begins when one country decides to prepare to launch an attack, or may simply occur in a period of very high tensions. Ends with an attack or with a defused crisis situation (as occurred in the Cuban missile crisis).
2. Beginning Period of War (BPW): begins with the commencement of hostilities and military action.

III. MAIN FINDINGS

The Soviet military has used its assessments of the beginning period of war to advocate force postures and national security policy, at times disagreeing with the political leadership on interpretations of key concepts.

A. Military and Political Discussions in 1959-1968

1. Military Discussions

- a. Character; surprise attack with strategic nuclear missiles.
- b. Impact; potentially decisive. Aggressor will seek to achieve war goals, but neither side may achieve these because there will be strategic and tactical warning time. This warning time will permit both sides to prepare for war or pursue launch-on-warning policies, thereby lessening the impact of the BPW.
- c. Implications;
 - 1) There will be a detectable threatening period during which we will be able to bring our forces to full alert to blunt or even negate the impact of surprise. Therefore, war may continue past BPW and require peacetime preparation of conventional forces for a long war.
 - 2) strategic leadership must be fully prepared in peacetime, the peacetime structure must be the same as will be required in war, must be centralized and unified state-military-political organ (begin to see discussion of intermediate levels of command).
 - 3) strategic reserves must be large and prepared in advance under direct command of strategic leadership to ensure flexibility and usefulness even with large losses.
 - 4) strategic intelligence must be able to closely monitor enemy's preparations for war (alerting command, dispersing, arming missiles, preparing ABM, increasing stockpiles, preparing economy).

2. Political Discussions

- a. Character; surprise attack with strategic nuclear missiles.
- b. Impact; will be decisive, and will achieve war goals. The war will be decided before large conventional forces are able to enter action.
- c. Implications; nuclear firepower will be the primary measure of military force, therefore do not need large conventional forces.

B. Military and Political Discussions in 1969-1974

Very few military sources, but general agreement in military discussions with previous period.

C. Military and Political Discussions 1975-Present

1. Military Discussions

- a. Character; growing explicit recognition of two possible types of BPW: a nuclear BPW as previously, or a conventional BPW.
- b. Impact; of a nuclear or conventional BPW can be decisive, where the aggressor seeks to achieve war goals, because there may be no detectable warning. Writings from the late 1970's argued that in a conventional BPW the aggressor will only seek to achieve "nearest strategic goals", not the overall war goals. Later writings (post-1984) state that the aggressor can achieve war goals in a conventional BPW because conventional forces can approximate nuclear weapons in effectiveness.
- c. Implications:
 - 1) there may not be a clear threatening period, instead we may have to begin preparatory measures as the risk of war increases. This creates a need for high readiness of the Armed Forces and the entire country during peacetime. especially because the war is more likely to be protracted.
 - 2) There is a growing conflict between political and military considerations because our military preparations may appear threatening to the opponent.
 - 3) strategic leadership must be structured in peacetime as in wartime, but also see explicit discussion of the need for intermediate levels of command (TVD), unified pol-mil-gov organ.
 - 4) strategic reserves must be prepared in advance, and are very important, they must have sufficient forces at their disposal to be able to significantly affect the course of battle in the BPW.
 - 5) strategic intelligence must monitor the more nebulous enemy conditions such as their plans for war, strategies, and intentions, because one cannot necessarily detect a clear threatening period.

- 6) a conventional BPW can be extremely rapid and decisive, so in peacetime conventional forces must be deployed near areas of intended action, and you cannot rely on having on warning time to ready conventional forces.

2. Political Discussions

Political discussions have not explicitly discussed the concept of the BPW as Khrushchev did, but several trends stand out. First, since the late 1970's there has been increasing emphasis on the impossibility of winning a nuclear war. Second, under Gorbachev, there has been increased political intervention in military affairs, including efforts to constrict the level of required military preparations by placing limits of "reasonable sufficiency" on military potentials.

IV. IMPLICATIONS

During both the 1960's and the 1980's the military has resisted political intervention in military affairs by asserting its expertise to interpret key concepts in security. In both periods the military has used their BPW assessments to advocate policy positions and advance their interests, yet the process by which this has occurred appears to have changed. Khrushchev asserted one interpretation of the BPW and the nature of future war, and the military reacted in presenting very different interpretations of the BPW. Gorbachev, on the other hand, has introduced new concepts in military affairs but has not yet tried to change military policy based on one particular interpretation of these concepts. Instead, an ongoing discussion has involved both military and non-military analysts who have presented different interpretations of key concepts. In this discussion, some military authors have recognized the increased interaction of military and political dimensions of security, explicitly discussing how political conditions place constraints on military efforts to prepare for a future war. They recognize a clear conflict between the need to fully prepare for war and the impossibility of doing this, and it is not clear how the Soviets are going to resolve this dilemma.

V. DIRECTIONS FOR FURTHER RESEARCH

To more fully investigate political-military interactions in national security policymaking by tracking such discussions over time in both the military and political press. This will include looking at how the military defines its legitimate domain of activity in the formulation of military doctrine. This research should improve our understanding of how civilian and military institutions and actors interact in the formulation of Soviet national security policy.

Soviet Theater Assessments

I. BASIC QUESTION AND WHY IT IS IMPORTANT

A. One of the more important and difficult elements of military planning consists of assessing one's own military capabilities relative to those of potential opponents. The Soviet planning process is no exception to this rule.

1. How do the Soviets think about theatre balance assessment?
2. What factors go into Soviet assessments of theater balance?
3. How much weight are they given in the "big picture" and how important are they relative each other?

The goal of this study is not to provide a single static "Soviet-style" answer to these questions, but, rather, to gain an understanding of the substance and basic concepts which comprise Soviet assessment of the balance of forces in the theatre.

II. METHOD AND SOURCES

A combination of time-series and qualitative content analysis of Soviet military-historical literature in the last 30 years. Sources: Voyenno-istoricheskiy zhurnal, Soviet books on the experience of the Great Patriotic War. These writings were examined against the background of changing Soviet military doctrine in order to establish whether and how the evolving military doctrine has affected Soviet views of factors that comprise the balance of forces in the theater. The data were divided among three time periods:

1959-1968, the revolution in military affairs

1969-1974, the transition phase

1975-present, conventional war emphasis.

III. FINDINGS

A. Factors Which Remained Unchanged during the Entire Period 1959-present:

1. Soviet analyses of the experience of the Great Patriotic War have emphasized the following three operational factors which were credited as key to the outcome of wartime operations:
 - a. surprise
 - b. superiority in the sector of the main strike
 - c. concentration of forces in the sector of the main strike
2. Underlying Factors: Soviet sources have also reflected the opinion that these three operational factors are the product of a combination of such fundamental conditions:
 - a. military art
 - b. the quality of the strategic leadership, and its preparedness for war
 - c. the strength of the strategic, operational and tactical rear; the economy's mobilization potential and ability to sustain the war
 - d. the quality of intelligence--strategic, operational and tactical
 - e. tactical, operational and strategic disinformation, camouflage
3. Surprise vs. thorough preparations: a trade-off resolved in favor of surprise.
4. Local vs. overall superiority. The ability to conduct simultaneous strategic offensive operations by groups of Fronts is a function of overall superiority in the theatre. Simultaneous offensive operations constitute the preferred mode of warfighting.

B. Evolutionary Developments in Soviet Military Writings

1. The gap between doctrine and strategic thinking during the Revolution in military affairs -- 1959-68: interest in conventional warfare reflected in military writings contradicts heavy emphasis on nuclear weapons found in the official doctrine. The evolution of doctrine toward a more conventional posture has resulted in greater consistency between doctrine and strategic analysis.
2. Military writings published during the current period have reflected a growing interest in strategic defensive operations. In this regard the experience of the first period of the war--strategic defense -- has become particularly instructive.

- C. Summary observation: no evidence suggests the existence of a macro model or formula which is used to calculate the correlation of forces in the theatre of military operations. Theatre assessment is a product of strategic analysis of a broad range of factors peculiar to a given situation.

IV. QUESTIONS FOR FURTHER RESEARCH

- A. Simulate current theatre balance as seen through the eyes of Soviet military analysts, and possible effects of new U.S. military programs.
- B. Possible points of convergence between the military's growing interest in strategic defensive operations and Gorbachev's new political thinking on "defensive" defense.

Soviet Assessments of Air Defense

I. GOAL

This report addresses a number of questions concerning the evolution of Soviet assessments on the role of air defense (PVO):

- A. How do the Soviets assess the effectiveness of their air defense forces?
- B. How have these assessments changed over time and are they correlated with changes in Soviet doctrine and strategy?
 - 1. Have the roles and missions of the air defense forces changed over time?
 - 2. Have changes in roles and missions been reflected in operational art?
- C. What can we learn about Soviet operational art for air defense and how might this be used to increase the effectiveness of NATO airpower?

II. METHODOLOGY AND SOURCES

A. Methodology

A qualitative content analysis of Soviet publications on the issue of air defense from 1959 to 1987. This timeframe was broken down into 3 periods: the Revolution in Military Affairs (RMA) period (1959-1968), the transition period (1969-1974), and the conventional period (1975-present). During each of these periods the congruence of operational art and doctrine was examined.

B. Sources

Primarily Voenno-istoricheskiy zhurnal and Military Thought (to 1973) for operational art information, and Vestnik PVO for tactical information. Several Soviet books on air defense have also been consulted.

III. MAIN FINDINGS

A. Doctrine and Roles and Missions.

A fairly close correlation between operational art, roles and missions, and doctrinal changes was observed. As the doctrine shifted from central strategic nuclear to conventional the PVO shifted to an emphasis on LOC defense and coverage of conventional offensives.

1. RMA period: the PVO historical literature emphasized strategic defense of administrative/industrial targets, corresponding to a central strategic exchange. The importance of surprise and the beginning period of war were also stressed. ABM and ATBM systems were presented as the logical next step in the development of the PVO.
2. Transition period: an overall shift to questions of PVO employment in the second and third periods of the Great Patriotic War, particularly the defense of LOCs. The problem of ensuring continuous strong air defense coverage during rapid offensives was also stressed. Concerns were expressed in Military Thought over the possible use of US strategic bombers in a conventional attack on the USSR.
3. Conventional period: continued concern with the third period of the war and LOC defense. A new interest in organizational structure emerges, particularly coordinating PVO operations with SV forces. The role of Stavka is emphasized. After the 1980 reorganization the historical literature expands to discuss questions of PVO SV force development as well. This reorganization seems intended to strengthen PVO during a conventional war.

B. Operational Art

The principles of operational art have remained fairly constant but have been reinterpreted in light of the new missions. The principles include:

1. Circular, deeply echeloned defenses strengthened along the most probable avenues of attack.
2. Massing and concentration of forces to achieve high fire density against penetrating forces.
3. Maneuver of forces to augment PVO forces before and during engagements.
4. Maneuver to fill gaps arising during ground force offensives.
5. Centralized control of all PVO forces is stressed.
6. The anti-air operation is the primary means of PVO employment. It is to be conducted over a wide front, emphasising advanced planning, coordination of various PVO means, maneuver of forces, and centralized control.

C. Soviet Methods for Assessing Air Defense

1. Quantitative and Qualitative Assessments

This literature was primarily non-quantitative, although there is a substantial and separate systems analysis literature on this subject (see Finn and Meyer). Very often statistics from the GPW would be quoted to indicate the effectiveness of the PVO. Claims of kill rates of 10% are sometimes found, although overall statistics indicate an average kill rate of approximately 2%. Extremely low penetration rates (<10%) were sometimes cited. This suggests that as "penetration" the Soviets are referring to accurate and orderly dropping of bombs on the target. Often there are statements that enemy aircraft losses of approximately 20% were sufficient to cause the attacker to break off the attack.

Despite their use of statistics, Soviet commentators often note that the quantitative indicators are not as important as the qualitative indicators. Thus the fact that normal life continued in Moscow, or that railroads continued to function without significant delay, is presented as even more important than the number of German aircraft destroyed. Thus, the primary value of PVO defenses is not captured in narrow indices of kill or penetration rates, but rather in the attainment of some higher goal--the preservation of the target.

2. Organizational Structure

The Soviets consider the organizational structure of the air defense an important consideration. Throughout the GPW the PVO forces were divided into organic troop air defense (PVO SV) and the air defenses of the country (VPVOS). Failures in the Soviet PVO system are often blamed on poor organization and command and control, and the numerous reorganizations appear to have been aimed at eliminating deficiencies. During the GPW the structure of the PVO underwent a series of changes, culminating in four PVO fronts each of which covered an area roughly equivalent to a TVD. These fronts were created to ensure coordination with ground forces and their organic air defense resources.

3. LOC Defense

At present the VPVO appears to have an important role in ensuring air defense throughout the depth of the theater. Of particular concern are the defense of LOCs and maintaining continuous air defense coverage during rapid offensive operations.

WP forces are prepared to defend LOCs against an extensive NATO interdiction campaign. A dense SAM umbrella, augmented by PVO fighter aviation, could be expected around all significant LOC interdiction targets. This might be augmented by SAM installations on railroad cars and other mobile units to be used in ambushes.

4. Offensive Operations

One problem that is addressed in the military-historical literature is providing continuous air defense coverage during rapid offensive operations. During the GPW advancing fronts often outran their organic air defense and gaps would also open up between the organic troop air defense and the VPVOS. These problems are to be remedied by maneuver of VPVO forces to prevent gaps arising, possibly using VPVO units from the European USSR. This would maintain constant density of defenses and full coverage of all forces during a rapid offensive.

D. Implications for NATO Forces

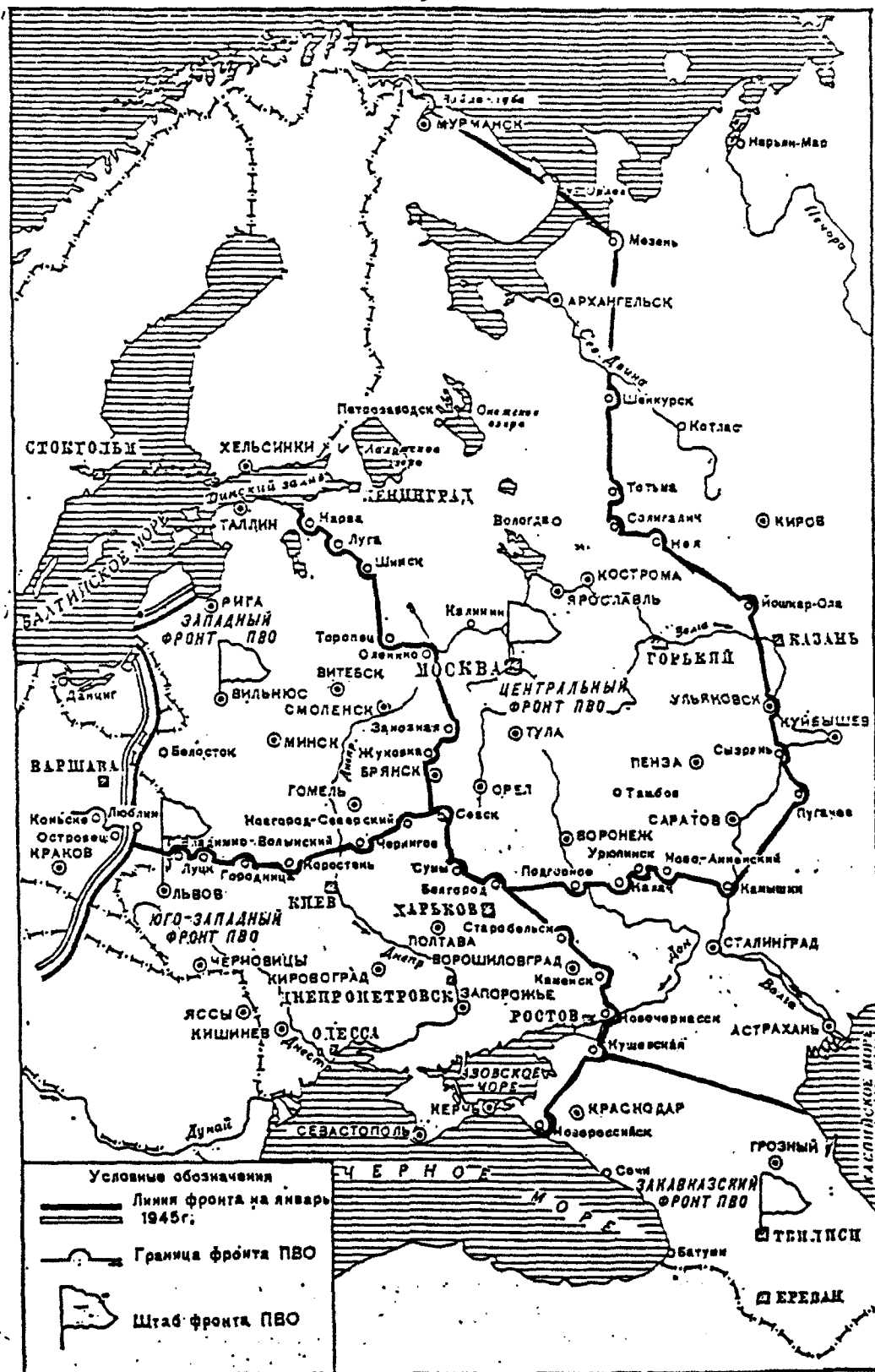
Soviet intentions appear to be to create a seamless PVO system under unified TVD level control, able to combat all air-breathing threats including cruise missiles. TVD level control allows centralization while maintaining close coordination with troops.

The creation of a PVO system linking ground force PVO (SV) and territorial PVO (VPVOS) may create difficulties for deep penetration and interdiction strikes. NATO penetrating aircraft may face a very thick air defense system, particularly in the area of major offensives or significant railroad targets. Effectiveness may not exceed that during the 1973 Arab--Israeli war (<2%), but even at that level the Soviets feel that the contribution of the PVO would be very significant. The importance of SAM suppression weapons and training thus appears particularly high if deep interdiction missions are to be aggressively pursued. Stand-off weapons may also become critical to the success of missions against LOC targets.

While not a major topic of this research, there is evidence that the Soviets attach great importance to GCI methods and strict command and control. In the case of the GPW they credit the introduction of radar with improving the effectiveness of fighter aviation (number of sorties per kill) by a factor of 3 to 5. The application of successful ECM might reduce their effectiveness correspondingly, with the bonus effect of a "confusion factor." This has been demonstrated to some extent by the Israelis against the Syrian air force.

IV. DIRECTIONS FOR FURTHER RESEARCH

- A. Expand the range of sources to include more tactical level material from Vestnik PVO.
- B. Augment this study by examining Soviet views on the role of airpower in the conventional theatre balance. To what extent are the assessments of PVO and tactical air effectiveness correlated? This could even include Soviet discussions of effectiveness of strategic aviation as well as tactical air.



Границы фронтов ПВО в начале 1945 г.

Operation	Kill Rate (%)	Penetration (%)	Notes	Source
Moscow		<7	250 to city	Zimin (1961)
Leningrad		86	Night flights	"
Kursk	20		June 2: 800 ac	"
Moscow	9.9		Avg over 7/41-4/42	Desnitskiy (1959)
Moscow	4.7		7/41--10/41	Svetlitshin (1966)
Moscow		3	7/41-8/41 (2222 sorties)	Svetlitshin (1968)
Gor'kiy	5		1200 sorties	Svetlitshin (1971)
First Period	10		PVO SV, average	Lavrent'yev (1972)
GPW	2.4		304,157 sorties	Batitskiy (1972)
Moscow	6.1		12,100 sorties, 250 pen	Anaymovich (1972)
Kursk (day 1)	12.4	2	315 sorties, PVO SV	Lavrent'yev (1978)
Kursk (day 3)	5		960 sorties	"
Kronstadt	~20	~58	>100 sorties	Smirnov (1978)
Kursk RR	38		170 sorties, 65 kills	Smirnov (1983)
Kursk RR	26.7		543 sorties, 145 kills	"
1973 War	0.5		25000 I sorties, 120 kills	Kozhevnikov (1984)
V-1	52.8		UK experience	Biryuzov (1961)

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Soviet Assessment of Western Alliance Cohesion

I. GOAL

To compare Soviet military and political-military assessments of Western Alliance cohesion along military, political-military, and economic dimensions.

- A. Do Soviet military writers stress the integrative tendencies in NATO or do they share a more balanced view, recognizing both NATO's capacity for cohesion and its susceptibility to disunity?
- B. How are Soviet assessments of the strengths and weaknesses of the Western Alliance incorporated into Soviet theater assessments of the overall "correlation of forces"?

These questions are important for understanding Soviet policy towards the Western Alliance in peace, crisis, and war and Soviet perceptions of NATO cohesion. They are also essential for NATO's examination of its own alliance cohesion question.

II. METHODS AND SOURCES

A. Method

A qualitative content analysis of writings by Soviet military and political-military specialists on NATO military, political, and economic issues. The main focus of the investigation is the characterization by each author of the alliance in terms of unity or disunity along military, political-military, and economic dimensions.

Are there variations (1) in analyses of military, political-military, and economic spheres; (2) over time within each sphere; (3) among the categories of authors?

The analysis shall be organized according to the four stages in the development of the unified armed forces of NATO identified by Soviet military authors:

- 1948-54: The period of Alliance Formation
- 1955-62: Development of "Sword and Shield"
- 1962-78: Development of Flexible Response and Years of Strain and Stress
- 1978-Present: Renewed Militarization

B. Sources

Military: journals (Voyenno-istoricheskiy zhurnal, Military Thought, Zarubezhnoye voyennoye obozreniye (ZVO)); newspapers (Krasnaya zvezda); books;

Political-military: journals (Kommunist vooruzhennykh sil, Kommunist, Mirovaya ekonomika i mezhdunarodnye otnosheniya (MEMO), SSha, International Affairs (Moscow)); central press (Pravda, Izvestiya); books (e.g., Iu. P. Davydov, ed., SSHA-Zapadnaya Evropa: Partnerstvo i sopernichestva (The USA-Western Europe: Partnership and Rivalry) (Moscow: Nauka, 1978)).

III. PRELIMINARY INVESTIGATION

Western scholars have advanced a wide variety of explanations and assumptions about Soviet perceptions of and policy towards the Western Alliance. Such writings can be divided into three "schools":

- A. "Disunity": the Soviet Union believes it can and is actively trying to split the alliance apart;
- B. "Cohesion": the Soviets stress interdependence and integration as the dominant features of the alliance;
- C. "Opportunism": Recognizing both NATO's capacity for cohesion and susceptibility to disunity, the Soviets seek to exploit and promote disagreements among the alliance members.

Preliminary conclusions from a review of this literature now being done are as follows:

A. General

- 1. a focus on Soviet political literature on the part of Western authors; little systematic review of military literature.

2. political-military analysts accent integrative factors in the NATO alliance while economists and analysts of political relations take a more balanced view or tend in the direction of contradictions.

B. "Two-Tendencies"

1. "consensus" Soviet view that contradictions are absolute, while unity is relative.
2. Soviet writers recognize that US-West European relationship is one of reciprocal influence, and this recognition helps to explain Soviet policy toward the Western Alliance and its members.

C. Misc.

1. integrative tendency of anti-Soviet orientation and inter-allied economic relations dominates the Alliance.
2. member-states focus on national domestic political situations.
3. trend towards Western European integration and increasing equality between the US and Western Europe.

IV. NEXT STEPS

- A. Complete preliminary investigation, relating perceptions of Soviet assessments of the Alliance with (perceived) Soviet policy toward the Alliance (particularly Western Europe);
- B. Conduct the investigation of Soviet assessments using Soviet source material;
- C. Consider the relevance of Soviet assessments for
 1. Soviet policy towards the Western Alliance and individual members of the alliance;

2. Soviet perceptions of these problems as they relate to the Warsaw Treaty Organization and their own command and control system and policies to address inadequacies;
 3. understanding the political, military, and economic dimensions of Soviet calculations in crisis and in war.
- D. Discuss how this analysis can help NATO to clarify its own alliance strengths and weaknesses and identify solutions for perceived inadequacies.